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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,077	08/23/2001	Satoshi Kawamura	0152-0577P	8442
2292	7590	06/30/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			LEWIS, MONICA	
PO BOX 747			ART UNIT	
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2822

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/914,077

Applicant(s)

KAWAMURA ET AL.

Examiner

Monica Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6,9-19 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) 9-19,30 and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,28 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. This office action is in response to the amendment filed April 6, 2005.

#### *Specification*

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 5, 6, 28 and 29 are rejected under 35 U.S.C. 103(a) as obvious over Mori et al. (Japanese Publication No. 08-222695) in view of Inoue (U.S. Patent No. 4,960,983).

In regards to claim 1, Mori et al. ("Mori") discloses the following:

a) a conductor constituting said coil having a plurality of directly contacting layers (22, 26 and 27) said coil being formed entirely on a surface of said IC element (For Example: See Figure 5, Figure 8, Claim 10, Paragraph 2, Paragraphs 23-25).

In regards to claim 1, Mori fails to disclose the following:

a) a metal-sputtered layer or alternatively a metal-evaporated layer and a metal plated layer.

However, Inoue discloses the use of sputtering metal layers (For Example: See Column 4 Lines 15-27). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Mori to include sputtering metal layers as

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disclosed in Inoue because it aids in providing a connection among the various components (For Example: See Column 4 Lines 15-27).

Additionally, the limitation of "metal-sputtered layer or alternatively a metal-evaporated layer and a metal plated layer" makes it a product by process claim. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

Finally, since Mori and Inoue are both from the same field of endeavor, the purpose disclosed by Inoue would have been recognized in the pertinent art of Mori.

In regards to claim 2, Mori discloses the following:

a) at least one metal of aluminum, nickel, copper and chromium or alternatively an alloy containing those metals (For Example: See Paragraphs 24 and 25).

In regards to claim 2, Mori fails to disclose the following:

a) a metal-sputtered layer or alternatively a metal-evaporated layer and a metal plated layer.

However, Inoue discloses the use of sputtering metal layers (For Example: See Column 4 Lines 15-27). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Mori to include sputtering metal layers as disclosed in Inoue because it aids in providing a connection among the various components (For Example: See Column 4 Lines 15-27).

Additionally, the limitation of "metal-sputtered layer or alternatively a metal-evaporated layer and a metal plated layer" makes it a product by process claim. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "product by, all of" claim, and not the patentability of the process, and that an old or obvious product, whether

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claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

Finally, since Mori and Inoue are both from the same field of endeavor, the purpose disclosed by Inoue would have been recognized in the pertinent art of Mori.

In regards to claim 5, Mori fails to disclose the following:

a) metal-plated layer is formed by resorting to a electroless plating method or alternatively an electroplating method or alternatively a precision electroforming method.

However, the limitation of "electroless plating method or alternatively an electroplating method or alternatively a precision electroforming method" makes it a product by process claim. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

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In regards to claim 6, Mori fails to disclose the following:

a) line width of said coil is not smaller than 7  $\mu\text{m}$ , an inter-line distance thereof is not greater than 5  $\mu\text{m}$  and the number of turns thereof is not smaller than 20 turns.

However, the applicant has not established the critical nature of the dimension of “7  $\mu\text{m}$ , an inter-line distance thereof is not greater than 5  $\mu\text{m}$  and the number of turns thereof is not smaller than 20 turns.” “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990).

In regards to claim 28, Mori fails to disclose the following:

a) a resistance of said metal-plated layer is less than a resistance of said metal sputtered layer or said metal evaporated layer.

Although Mori fails to specifically disclose the limitations listed above, the same materials are utilized in Mori as in Applicant’s invention therefore it would have the same characteristics. Moreover, claim 1 requires that either the conductive layer includes a metal-sputtered layer or, alternatively, a metal-evaporated layer or a metal-plated layer. Since Inoue has been relied upon as a teaching to use a metal-sputtered layer, no metal plated layer is formed. Hence, the resistance of the metal-plated layer will be less than that of the metal-sputtered layer.

Additionally, the limitation of “metal-sputtered layer or alternatively a metal-evaporated layer and a metal plated layer” makes it a product by process claim. The MPEP § 2113, states, “Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product

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does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

Finally, since Mori and Inoue are both from the same field of endeavor, the purpose disclosed by Inoue would have been recognized in the pertinent art of Mori.

In regards to claim 29, Mori discloses the following:

a) the entirety of said coil is formed on a surface of said IC element (For Example: See Figure 1).

5. Claim 3 is rejected under 35 U.S.C. 103(a) as obvious over Mori et al. (Japanese Publication No. 08-222695) in view of Inoue (U.S. Patent No. 4,960,983), Droz (U.S. Patent No. 6,176,010) and McDonough et al. (U.S. Publication No. 2001/0044013).

In regards to claim 3, Mori fails to disclose the following:

a) coil is formed on a surface of said IC element formed with input/output terminals with interposition of an electrically insulative surface passivation film.



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However, Droz discloses the use of a coil that is formed on a surface of an IC element with input/output terminals and interposition of an electrically insulative surface passivation film (For Example: See Figure 6 and Column 3 Lines 43-45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Mori to include the use of a coil that is formed on a surface of an IC element with input/output terminals and interposition of an electrically insulative surface passivation film a coil with chamfered corners as disclosed in Droz because it aids in providing insulation (For Example: See Column 3 Lines 43-47).

Finally, since Mori and Droz are both from the same field of endeavor, the purpose disclosed by Droz would have been recognized in the pertinent art of Mori.

b) IC element and said coil are electrically interconnected through through-holes formed in said surface passivation film and each having a diameter smaller than a line width of said coil.

However, McDonough et al. ("McDonough") discloses the use of through-holes (19) in the dielectric film (18) (For Example: See Paragraph 52). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Mori to include a through-holes as disclosed in McDonough because it aids in providing electrical contact among the various components (For Example: See Paragraph 52).

Finally, since Mori and McDonough are both from the same field of endeavor, the purpose disclosed by McDonough would have been recognized in the pertinent art of Mori.

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6. Claim 4 is rejected under 35 U.S.C. 103(a) as obvious over Mori et al. (Japanese Publication No. 08-222695) in view of Inoue (U.S. Patent No. 4,960,983) and Sakamoto et al. (U.S. Publication No. 2001/0002874).

In regards to claim 4, Mori discloses the following:

a) coil is implemented in a rectangular spiral pattern in a planar shape all or some of corner portions of said rectangular spiral pattern are chamfered.

However, Sakamoto et al. ("Sakamoto") discloses the use of coil (4) with chamfered corners (For Example: See Figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Mori to include a coil with chamfered corners as disclosed in Sakamoto because it aids in preventing breakage (For Example: See Paragraph 71).

Finally, since Mori and Sakamoto are both from the same field of endeavor, the purpose disclosed by Sakamoto would have been recognized in the pertinent art of Mori.

### ***Response to Arguments***

7. Applicant's arguments filed 6/14/05 have been fully considered but they are not persuasive. First, Applicant argued that "it is noted that the preamble in claim 1 describes an IC element formed integrally with a coil...the Examiner has not pointed out and Applicant's do not see where the integrated circuit element is formed in this device...it does not appear that this device is used to perform contactless data communication with external equipment as required in the preamble." In response to applicant's arguments, the recitation has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness

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but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Additionally, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). In addition, Mori clearly teaches “an IC element formed integrally with a coil (For Example: See (For Example: See Figure 5, Figure 8, Claim 10, Paragraph 2, Paragraphs 23-25).

Second, Applicant argues that “it is not seen that the coil is located entirely on a surface of the IC element.” However, Mori does disclose a “coil formed entirely on a surface of said IC element.” Mori discloses a monolithic microwave integrated circuit that has an inductor element (38)(For Example: See Figure 8, Claim 10, Paragraph 30). The inductor element comprises a conductor that has a coil having a plurality of directly contacting layers (22, 26 and 27) (For Example: See Figure 5). Therefore, the coil is formed entirely on a surface of said IC element.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 571-272-1838. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ML

June 23, 2005



**Mary Wilczewski**  
**Primary Examiner**